



ANNOTATED CLAIMS prepared January 23<sup>rd</sup> 2006.

In my application number 08 / 477 703 filed on June 5<sup>th</sup> 1995 under Group Art 3747, what I Mitja Victor Hinderks CLAIM is:

1-53 Claims 1 to 53 are cancelled.

54 (Original) A device for the working of fluids, said device having a cylinder assembly comprising a cylinder with at least one circumferential depression, a component with at least one external circumferential projection and at least one structural member, a housing for said cylinder assembly and means between said housing and said cylinder assembly to enable said cylinder assembly to rotate within said housing, said external circumferential projection reciprocable in said internal circumferential depression and both cylinder and component having working surfaces defining at least one pair of toroidal fluid working chambers which in operation have cyclically variable volumes, said cylinder assembly having means between said component and said cylinder such that in operation said component rotates and reciprocates within said cylinder.

55 (Original) A device for the working of fluids, said device comprising a chamber assembly having a chamber, head and a component reciprocally movable within said chamber, said head and component defining a variable working volume therebetween, said component having an internal passage for passage of fluids to or from said working volume, said working volume being separated from and pierced by said passage, and a housing for said chamber, head and component, said chamber, head and component being rotatably mounted within said housing to enable said chamber assembly to rotate within said housing while said component reciprocates within said assembly.

56-59 Claims 56 to 59 are cancelled.

60 (Original) The device of claim 55, wherein said chamber assembly is substantially made of ceramic material.

61 (Currently Amended) A device for the working of fluids comprising at least one cylinder assembly and a component assembly reciprocable therein, said component having two longitudinal extremities and at least one circumferential projection, said cylinder assembly having at least one internal circumferential depression in which [[a]] said projection is

*positioned to reciprocate, said projection and depression forming a pair of toroidal fluid working chambers of cyclically variable capacity, said component having at least one internal passage for movement of fluids to or from said working chambers, said assembly including a multiplicity of elements of ceramic material held in assembled and abutted condition by at least one fastener loaded in tension.*

62 (Original) *The device of claim 61, including a housing in which said cylinder assembly is mounted.*

63 (Original) *The device of claim 62, wherein said housing is at least partially partially composed of thermally insulating material.*

64 (Original) *The device of claim 62, including means to mount said cylinder assembly in said housing to enable said cylinder assembly to rotate while said component is reciprocating in said in said cylinder assembly.*

65 (Original) *The device of claim 61, including means between said assembly and said component so as to cause said component to rotate relative to said assembly while reciprocating in said assembly.*

66 (Currently Amended) *The device of claim 61, including a crankshaft *[[and a connecting rod,]]* to which *[[crankshaft an end of an extremity]]* at least one of said extremities is linked *[[, said connecting rod having a small and large end]].**

67 *Claim 67 is cancelled.*

68 (Original) *The device of claim 61, wherein said component is at least partly composed of ceramic material.*

69 *Claim 69 is cancelled.*

70 (Original) *The device of claim 61, wherein said assembly comprises at least one pair of substantially identical components arranged in mirror image about one another.*

71 (Original) *The device of claim 70, wherein said pair of components define a port therebetween for passage of fluid to or from said working chambers.*

72-74 Claims 72 to 74 are cancelled.

75 (Currently Amended) The device of claim 61, including means defining a volume for passage of fluids to or from said working chambers, said means substantially surrounding [[at least a portion of]] said cylinder assembly.

76 (Original) The device of claim 61, including at least one fastener, said reciprocable component comprising a multiplicity of elements, said elements being held in assembled condition by said at least one fastener loaded in tension.

77 Claim 77 is cancelled.

78 (Original) The device of claim 61, wherein said device is part of an internal combustion engine and said working chambers are combustion chambers.

79 Claim 79 is cancelled.

80 (Original) The device of claim 61, including fuel delivery means mounted in said reciprocable component.

81 (Original) The device of claim 61, including filamentary material contained in said internal passage.

82 (Original) The device of claim 75, including filamentary material contained in said volume.

83 (Original) The device of claim 61, including a rotatable shaft and a load transfer mechanism, said component being linked to said rotatable shaft by said load transfer mechanism.

84 (Original) The device of claim 83, wherein said mechanism comprises a hollow shaft with interior splines slidable on a shaft with external splines.

85 (Original) The device of claim 83, wherein said mechanism comprises a bellows device.

86 (Original) The device of claim 83, wherein said mechanism includes at least one hinged element.

- 87     *(Original) The device of claim 83, wherein said mechanism includes at least one pair of substantially parallel flanges separated by at least one roller, the flanges in operation moving laterally relatively to one another.*
- 88     *Claim 88 is cancelled.*
- 89     *(Original) The device of claim 78, wherein said part of an internal combustion engine comprises one stage of a compound engine.*
- 90     *(Original) The device of claim 89, including a turbine stage to form a compound engine.*
- 91     *(Original) The device of claim 89, including a steam engine stage to form a compound engine.*
- 92     *(Original) The device of claim 89, including a Stirling engine stage to form a compound engine.*
- 93-97   *Claims 93 to 97 are cancelled.*
- 98     *(Original) The device of claim 61, wherein said component has at least one surface defining manufactured depressions wholly fillable by fluids worked by said device.*
- 99     *(Original) The device of claim 61, wherein said cylinder assembly has at least one surface defining relatively small manufactured depressions wholly fillable by fluids worked by said device.*
- 100    *(Original) The device of claim 65, wherein said means comprise a guide and an endless track, said guide movable in said endless track, said track having a multiple wave form configuration.*
- 101    *(Original) The device of claim 100, wherein said guide is disengagable from said track.*
- 102    *(Original) The device of claim 81, wherein said filamentary material includes material having catalytic effect to hasten chemical reaction in said working fluid.*
- 103    *(Original) The device of claim 82, wherein said filamentary material includes material having catalytic effect to hasten chemical reaction in said working fluid.*

- 104 (Original) The device of claim 65, wherein said means comprise said component and said cylinder assembly define complementary surfaces at least partly of endless wave-like configurations.
- 105 Claim 105 is cancelled.
- 106 (Currently Amended) A device for the working of fluids comprising a [[housing]] structure, at least one cylinder assembly having a circumferential depression and directly mounted in said [[housing]] structure and a component reciprocable in said assembly, said component having two open cylindrical ends and at least one circumferential projection reciprocable in said circumferential depression in said assembly to form at least one pair of toroidal fluid working chambers of cyclically variable capacity, said component having at least one internal volume for passage of fluids to said working chambers, said [[housing being substantially of]] structure including insulating material to restrict heat transfer from said assembly.
- 107 (Original) A device for the working of fluids, said device having a cylinder assembly comprising a cylinder with internal circumferential depressions, a component with external circumferential projections and at least one structural member, said external circumferential projections reciprocating in said circumferential depressions and both having working surfaces defining at least one pair of toroidal fluid working chambers which in operation have cyclically variable volume, said at least one structural member having a circumferentially mounted means for transmitting load to or from said working chambers.
- 108 (Original) The device of claim 61, wherein at least one of said extremities in normal operation transfers loads associated with said working chambers.
- 109 Claim 109 is cancelled.
- 110 Claim 110 is cancelled.
- 111 (Original) The device of claim 55, including means between said chamber and said component so as to cause said component to rotate relative to said cylinder while reciprocating in said chamber.
- 112 (Original) The device of claim 61, wherein said fastener is of tubular form.
- 113 (Original) The device of claim 76, wherein said fastener is of tubular form.

- 114 (Original) The device of claim 61, including at least one electrical circuit within said ceramic material.
- 115 (Original) The device of claim 68, including at least one electrical circuit within said ceramic material.
- 116 (Original) The device of claim 54, wherein said housing is at least partly of insulating material for the purpose of restricting heat transfer from said assembly.
- 117 (Original) The device of claim 107, including a housing, wherein said housing is of insulating material and at least partly surrounds said cylinder assembly.
- 118 (Currently Amended) A device for the working of fluids comprising a structure, a cylinder assembly mounted in said structure, a component reciprocable within said assembly, filamentary material, said component having at least one longitudinal extremity and at least one circumferential projection, said cylinder assembly having at least one circumferential depression in which said projection is positioned to reciprocate, said projection and depression defining a pair of toroidal fluid working chambers of cyclically variable capacity and means defining a volume for passage of fluids to or from said working chambers, said means being substantially located within said structure [[surrounding at least a portion of said cylinder assembly]], said volume containing said filamentary material.
- 119 (Original) The device of claim 55, wherein said housing is at least partly of insulating material for the purpose of restricting heat transfer from said assembly.
- 120 Claim 120 is cancelled.
- 121 (Currently Amended) The device of claim 118, [[including a housing,]] wherein said [[housing is of]] structure at least partly comprises insulating material [[and at least partly surrounds said cylinder assembly]].
- 122 Claim 122 is cancelled.
- 123 Claim 123 is cancelled.
- 124 (Original) The device of claim 54, including at least one fastener, wherein said cylinder assembly includes a multiplicity of components of ceramic material held in assembled

*condition by said at least one fastener loaded under tension.*

- 125 (Original) *The device of claim 55, including at least one fastener, wherein said cylinder assembly includes a multiplicity of components of ceramic material held in assembled condition by said at least one fastener loaded under tension.*
- 126 (Original) *The device of claim 106, including at least one fastener, wherein said cylinder assembly includes a multiplicity of components of ceramic material held in assembled condition by said at least one fastener loaded under tension.*
- 127 (Original) *The device of claim 107, including at least one fastener, wherein said cylinder assembly includes a multiplicity of components of ceramic material held in assembled condition by said at least one fastener loaded under tension.*
- 128 (Original) *The device of claim 118, including at least one fastener, wherein said cylinder assembly includes a multiplicity of components of ceramic material held in assembled condition by said at least one fastener loaded under tension.*
- 129 (Original) *The device of claim 124, wherein said fastener is of tubular form.*
- 130 (Original) *The device of claim 125, wherein said fastener is of tubular form.*
- 131 (Original) *The device of claim 126, wherein said fastener is of tubular form.*
- 132 (Original) *The device of claim 127, wherein said fastener is of tubular form.*
- 133 (Original) *The device of claim 128, wherein said fastener is of tubular form.*
- 134 (Original) *The device of claim 54, including at least one fastener of tubular form, said reciprocable component comprising a multiplicity of elements, said elements being held in assembled condition by said fastener loaded in tension.*
- 135 (Original) *The device of claim 55, including at least one fastener of tubular form, said reciprocable component comprising a multiplicity of elements, said elements being held in assembled condition by said fastener loaded in tension.*
- 136 (Original) *The device of claim 106, including at least one fastener of tubular form, said*

*reciprocatable component comprising a multiplicity of elements, said elements being held in assembled condition by said fastener loaded in tension.*

- 137 (Original) *The device of claim 107, including at least one fastener of tubular form, said reciprocatable component comprising a multiplicity of elements, said elements being held in assembled condition by said fastener loaded in tension.*
- 138 (Original) *The device of claim 118, including at least one fastener of tubular form, said reciprocatable component comprising a multiplicity of elements, said elements being held in assembled condition by said fastener loaded in tension.*
- 139 (Original) *The device of claim 54, wherein said component is at least partly composed of ceramic material.*
- 140 (Original) *The device of claim 55, wherein said component is at least partly composed of ceramic material.*
- 141 (Original) *The device of claim 106, wherein said component is at least partly composed of ceramic material.*
- 142 (Original) *The device of claim 107, wherein said component is at least partly composed of ceramic material.*
- 143 (Original) *The device of claim 118, wherein said component is at least partly composed of ceramic material.*
- 144 (Original) *The device of claim 124, including at least one electrical circuit within said ceramic material.*
- 145 (Original) *The device of claim 125 including at least one electrical circuit within said ceramic material.*
- 146 (Original) *The device of claim 126 including at least one electrical circuit within said ceramic material.*
- 147 (Original) *The device of claim 127 including at least one electrical circuit within said ceramic material.*



- 148 (Original) *The device of claim 128 including at least one electrical circuit within said ceramic material.*
- 149 (Original) *The device of claim 54, wherein said assembly comprises at least one pair of substantially identical components arranged in mirror image about one another.*
- 150 (Original) *The device of claim 55, wherein said assembly comprises at least one pair of substantially identical components arranged in mirror image about one another.*
- 151 (Original) *The device of claim 106, wherein said assembly comprises at least one pair of substantially identical components arranged in mirror image about one another.*
- 152 (Original) *The device of claim 107, wherein said assembly comprises at least one pair of substantially identical components arranged in mirror image about one another.*
- 153 (Original) *The device of claim 118, wherein said assembly comprises at least one pair of substantially identical components arranged in mirror image about one another.*
- 154 (Original) *The device of claim 54, including at least one small manufactured depression in said cylinder surface to said working chambers and at least one small manufactured depression at a corresponding position in said component surface, said depressions wholly fillable by fluids worked by said device.*
- 155 (Original) *The device of claim 55, including at least one small manufactured depression in said cylinder surface to said working chambers and at least one small manufactured depression at a corresponding position in said component surface, said depressions wholly fillable by fluids worked by said device.*
- 156 (Original) *The device of claim 106, including at least one small manufactured depression in said cylinder surface to said working chambers and at least one small manufactured depression at a corresponding position in said component surface, said depressions wholly fillable by fluids worked by said device.*
- 157 (Original) *The device of claim 107, including at least one small manufactured depression in said cylinder surface to said working chambers and at least one small manufactured depression at a corresponding position in said component surface, said depressions wholly fillable by fluids worked by said device.*

- 158 (Original) *The device of claim 118, including at least one small manufactured depression in said cylinder surface to said working chambers and at least one small manufactured depression at a corresponding position in said component surface, said depressions wholly fillable by fluids worked by said device.*
- 159 (Original) *The device of claim 54, wherein said device is part of an internal combustion engine and said working chambers are combustion chambers.*
- 160 (Original) *The device of claim 55, wherein said device is part of an internal combustion engine and said working chambers are combustion chambers.*
- 161 (Original) *The device of claim 106, wherein said device is part of an internal combustion engine and said working chambers are combustion chambers.*
- 162 (Original) *The device of claim 107, wherein said device is part of an internal combustion engine and said working chambers are combustion chambers.*
- 163 (Original) *The device of claim 118, wherein said device is part of an internal combustion engine and said working chambers are combustion chambers.*
- 164 (Original) *The device of claim 54, including filamentary material and structure defining at least one volume for passage of fluids to or from said at least one of working chambers, said structure surrounding at least a portion of said cylinder assembly, said volume containing said filamentary material.*
- 165 (Original) *The device of claim 55, including filamentary material and structure defining at least one volume for passage of fluids to or from said working chambers, said structure surrounding at least a portion of said cylinder assembly, said volume containing said filamentary material.*
- 166 (Original) *The device of claim 106, including filamentary material and structure defining at least one volume for passage of fluids to or from said working chambers, said structure surrounding at least a portion of said cylinder assembly, said volume containing said filamentary material.*
- 167 (Original) *The device of claim 107, including filamentary material and structure defining at least one volume for passage of fluids to or from said working chambers, said structure*

*surrounding at least a portion of said cylinder assembly, said volume containing said filamentary material.*

- 168 (Original) *The device of claim 118, wherein said filamentary material includes material having catalytic effect to hasten chemical reaction in said working fluid.*
- 169 (Original) *The device of claim 54, wherein said means comprise said component and said cylinder assembly defining complementary surfaces at least partly of an endless wave-like configuration.*
- 170 (Original) *The device of claim 107, wherein said means comprise said component and said cylinder assembly define complementary surfaces at least partly of an endless wave-like configuration.*
- 171 (Original) *The device of claim 111, wherein said means comprise said component and said cylinder assembly define complementary surfaces at least partly of an endless wave-like configuration.*
- 172 (Original) *The device of claim 54, wherein said means comprise a guide and an endless track, said guide movable in said endless track, said track having a multiple wave-form configuration.*
- 173 (Original) *The device of claim 107, wherein said means comprise a guide and an endless track, said guide movable in said endless track, said track having a multiple wave-form configuration.*
- 174 (Original) *The device of claim 111, wherein said means comprise a guide and an endless track, said guide movable in said endless track, said track having a multiple wave-form configuration.*
- 175 (Original) *The device of claim 172, wherein said guide is disengagable from said track.*
- 176 (Original) *The device of claim 173, wherein said guide is disengagable from said track.*
- 177 (Original) *The device of claim 174, wherein said guide is disengagable from said track.*
- 178 (Original) *The device of claim 106, including means between said assembly and said*

*component so as to cause said component to rotate relative to said assembly while reciprocating in said assembly.*

179 (Original) *The device of claim 107, including means between said assembly and said component so as to cause said component to rotate relative to said assembly while reciprocating in said assembly.*

180 (Original) *The device of claim 118, including means between said assembly and said component so as to cause said component to rotate relative to said assembly while reciprocating in said assembly.*

181 (Original) *The device of claim 54, including a rotatable shaft and a load transfer mechanism between said shaft and said rotatable and reciprocatable component.*

182 (Original) *The device of claim 55, including a rotatable shaft and a load transfer mechanism between said shaft and said rotatable and reciprocatable component.*

183 (Original) *The device of claim 179, including a rotatable shaft and a load transfer mechanism between said shaft and said rotatable and reciprocatable component.*

184 *Claim 184 is cancelled.*

185 *Claim 185 is cancelled.*

186 *Claims 186 through 197 are cancelled.*

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**END OF CLAIMS**